they are surrounded. The report on these deposits was made by L. C. Graton. In Bear Lake County, Idaho, copper deposits occur near Montpelier. Here however, they are mostly carbonate and not sulphide ores. Their value has not yet been definitely proved, nor is their extent known. The chief project for their development is the Bonanza shaft, which has gone down 350 feet but has not yet shipped ore. Shales, stained green, maroon and chocolate by iron, abound in the region, the colors mimicking those of copper stains and misleading the prospector, who supposes that their vivid tints are indications of copper. The ores run only about 2 per cent. but may be made to pay by proper treatment. The deposits are described by H. S. Gale. Near South Mountain, Pennsylvania, copper in the shape of blebs, grains and wires is associated with ancient lavas, particularly with the greenstone that is so widespread in that region. Traces of copper are found for eight miles, from the Gettysburg pike to a point beyond the Maryland state line. Most of the prospects are at stream crossings, where the overlying rocks have been worn away. The copper was brought up from the interior of the earth with the lava but was then very finely disseminated through the mass and was worthless. Later it was concentrated in veins by hot circulating waters, which dissolved it and later redeposited it on the walls of cavities and in other places. These deposits, which are described by G. W. Stose, have been known for seventy years but have not yet proved to be commercially important. Systematic search, however, might reveal valuable deposits.

UNIVERSITY AND EDUCATIONAL NEWS

FREDERICK W. DOOLITTLE, B.S. (C.E.) 1907, instructor in civil engineering in the University of Colorado, has been appointed assistant professor of mechanical engineering at the University of Wisconsin.

DR. E. T. BELL, formerly of the University of Missouri, has begun his duties as assistant professor of anatomy in the University of Minnesota.

DR. ALEXANDER PETRUNKEVITCH, honorary curator in the American Museum of Natural History, has been appointed instructor in zoology in the Sheffield Scientific School of Yale University.

E. G. PETERSON, Ph.D. (Cornell), has been appointed professor of bacteriology in the Oregon Agricultural College. At the same institution Mr. William E. Lawrence has been appointed instructor in botany.

MR. JOHN E. GUTBERLET, assistant in biology at the University of Colorado, has accepted a position in the biological department of the University of Illinois.

DISCUSSION AND CORRESPONDENCE

PRACTICAL NOMENCLATURE

DR. NEEDHAM'S proposal[1] to use numbers in place of specific names in zoology fills me with astonishment. Granting that the problems of nomenclature are at bottom problems of psychology, what can be said in defense of a number-system as against one of names? Every man, woman and child in the world, with rare exceptions, I suppose, has a name. Every town or village has a name. Imagine that instead, we were all numbered, and that in order for this communication to reach the editor I had to write upon the envelope 21,560, A 493, X 2. Is that easier to remember than the customary address? Does it call up pleasanter thoughts? Garrison-on-Hudson, if it does consist of three words and sixteen letters, is pleasing and suggestive; were it twice as long I would not exchange it for a group of numbers. Even Tin Cup and Hell Gate, places in Colorado, have names which are suggestive and interesting, far better than, say 206 and 508. It is true that some names are unfortunate, but even the worst have a certain individuality, and with the authors indicated recall to us something of zoological history, often of romance.

Take the very list given by Dr. Needham. What must be the condition of a man's mind, if he thinks that numbers are a good exchange for *barbara, sponsa, nympha, forcipata, dryas* and the rest? What a fine century of entomological effort is called to our mind as we run over the names of Fabricius, Charpentier,

[1] SCIENCE, September 2, p. 295 et seq.

Fonscolombe, Say, Rambur, Hagen, de Selys and the others! All this might be thrown away, were there any compensating gain, but so far as I can see, there is only loss. It is not easier to remember numbers than names; on the contrary, they are much more readily forgotten, transposed or misprinted, and when mixed up they contain no clue to enable us to set them right.

I have worked many years at different branches of zoology and botany, and venture to affirm that it is easier to remember names than species. The names which come before us as a chaotic multitude, menacing and incomprehensible, *are those of things we do not know.* To me, even these names have a sort of charm, like that of unknown people passing in the street, each one a little mystery, with wonderful if unknown history and meaning. A high degree of complexity in nomenclature is reached when we attempt to indicate all sorts of minor categories, subgenera, subspecies and the like, but all this is for the purpose of reflecting in some poor way the real complexity of nature. The mind can not grasp it all, but it is possible to attain a reasonable comprehension of parts, and for this it seems to me that nomenclature (not numeration) is a useful tool. I am the more convinced that we are on the whole doing well, from the fact that in practically every group which I have studied, the path of the student is far easier to-day than it was twenty years ago.

T. D. A. COCKERELL
UNIVERSITY OF COLORADO

SCIENTIFIC BOOKS

Studien ueber die Bestimmung des weiblichen Geschlechtes. Dr. ACHILLE RUSSO. Pp. iv + 105; 32 figures. Jena, Gustav Fischer. 1909.

In this brochure Professor Russo, of the Imperial University of Catania, has presented in German a compilation of the results that he has already announced in Italian publications, together with abstracts of more recent and unpublished work. The title of the present paper would indicate that its author has dealt only with the determination of the female sex, but as a matter of fact he outlines a series of experiments designed to show that sex is a question of maternal metabolism and that Mendelian dominance is similarly dependent upon conditions of nutrition in the mother. It is apparent, therefore, that the conclusions of Professor Russo upon the subjects of sex determination and Mendelian inheritance are widely at variance with those held by the majority of his fellow workers in these lines of investigation. Should he be found correct, much of the work of cytologists and experimental breeders of the last ten years is seriously in error. For this reason his data should be carefully considered in order to determine whether he is justified in opposing the prevailing opinions regarding the subjects he discusses.

The material is presented under three headings: I., General Part, wherein the author gives his conclusions and a summary of his results; II., Analytical Part, in which is considered the function of the epithelium of the rabbit ovary and the experimental proof to show that this is under control by artificial means; III., Experimental Part, where the results of the breeding trials are given and criticisms of the work of other investigators following his methods are presented. The line of reasoning pursued by Professor Russo is, in brief, this: Sex and the characters of the soma in the offspring, at least so far as pigmentation is concerned, are the result of the metabolism in the mother at the time the eggs are produced and made ready for fertilization. The maternal condition impresses itself upon the egg through the medium of the epithelium of the ovary. Preponderant anabolism results in the production of large proportions of females, while the opposite condition favors the production of males. Likewise favorable conditions of nutrition in the mother reverse the factors of dominance in Mendelian inheritance. So far as the matter of sex determination is concerned it is apparent that we have here a revival of the epigamous theory so thoroughly and ably presented by Geddes and Thompson. The modification of Mendelian characters is, however, something en-